

SEQUENCE LISTING

<110> Cahoon, Rebecca E.
Falco, Saverio Carl
Pember, Stephen O.

<120> Chorismate Biosynthesis Enzymes

<130> BB-1159-A

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<141> 2001-01-04

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<151> 1999-07-20

<150> 60/093,611
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<213> Zea mays

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Ser Leu Arg Leu Ser Val Gly Arg Arg Arg Arg Ala Ser Ser Leu Glu
35 40 45
Val Lys Ala Ser Gly Asn Val Phe Gly Asn Tyr Phe Gln Val Ala Thr
50 55 60
Tyr Gly Glu Ser His Gly Gly Val Gly Cys Val Ile Ser Gly Cys
65 70 75 80
Pro Pro Arg Ile Pro Leu Thr Glu Ala Asp Met Gln Val Glu Leu Asp
85 90 95
Arg Arg Arg Pro Gly Gln Ser Arg Ile Thr Thr Pro Arg Lys Glu Thr
100 105 110
Asp Thr Cys Lys Ile Leu Ser Gly Thr His Asp Gly Met Thr Thr Gly
115 120 125
Thr Pro Ile His Val Phe Val Pro Asn Thr Asp Gln Arg Gly Gly Asp
130 135 140
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145 150 155 160
Tyr Asp Phe Lys Tyr Gly Val Arg Ala Val Gln Gly Gly Arg Ser
165 170 175
Ser Ala Arg Glu Thr Ile Gly Arg Val Ala Ala Gly Ala Leu Ala Lys
180 185 190
Lys Ile Leu Lys Leu Lys Ser Gly Val Glu Ile Leu Ala Phe Val Ser
195 200 205
Lys Val His Gln Val Val Leu Pro Glu Asp Ala Val Asp Tyr Glu Thr
210 215 220
Val Thr Leu Glu His Ile Glu Ser Asn Ile Val Arg Cys Pro Asp Pro
225 230 235 240
Glu Tyr Ala Glu Lys Met Ile Ala Ala Ile Asp Thr Val Arg Val Arg
245 250 255
Gly Asp Ser Ile Gly Gly Val Val Thr Cys Ile Ala Arg Asn Val Pro
260 265 270
Arg Gly Leu Gly Ser Pro Val Phe Asp Lys Leu Glu Ala Glu Leu Ala
275 280 285
Lys Ala Met Leu Ser Leu Pro Ala Ser Lys Gly Phe Glu Ile Gly Ser
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Gly Phe Ala Gly Thr Asp Phe Thr Gly Ser Glu His Asn Asp Glu Phe

305	310	315	320
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Gly Val Gln Gly Gly Ile Ser Asn Gly Glu Ile Ile Tyr Phe Lys Val			
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355	360	365	
Arg Glu His Glu Asp Val Glu Leu Leu Ala Arg Gly Arg His Asp Pro			
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Cys Val Val Pro Arg Ala Val Pro Met Val Glu Ser Met Ala Ala Leu			
385	390	395	400
Val Leu Met Asp Gln Leu Met Ala His Ile Ala Gln Cys Glu Met Phe			
405	410	415	
Pro Leu Asn Leu Ala Leu Gln Glu Pro Ile Gly Ser Ala Ser Ser Ala			
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 <213> Glycine max

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 acaagtccaa gtgaacattt tggcagatattttgcgggt gcaatctatc gttttgtatt 480
 aatgtatgtt aaactatgtt ttctttctt ctcttcttctt attttcattt tgagggtgaa 540
 cattgtttctt agtaaacctt gttgaaaaag cagagataga tgtatttta aagtgaactg 600
 atattaaaaaa ttgtaaagaaa cgtatcaggttttggctta ataagtgttg ctctgctttg 660
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 <213> Glycine max

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 20 25 30
 Lys Lys Gln Lys Thr Val Thr Arg Asp Lys Lys Glu Thr Glu Phe Ile
 35 40 45

Ala Arg Gly Arg His Asp Pro Cys Val Val Pro Arg Ala Val Pro Met
50 55 60

Val Glu Ala Met Val Ala Leu Val Leu Val Asp Gln Leu Met Ala Gln
65 70 75 80

Tyr Ala Gln Cys Asn Leu Phe Pro Val Asn Ser Asp Leu Gln Glu Pro
85 90 95

Leu Val Pro Ile Leu Arg Pro Glu Glu Ala Leu Leu
100 105

<210> 5

<211> 1015

<212> DNA

<213> Triticum aestivum

<400> 5

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aactcttacc ctggatcaga tagagagcaa catttgtaga tgcctgtat cagaatatgc 180
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<212> PRT

<213> Triticum aestivum

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20 25 30

Pro Glu Asp Ala Val Asp Tyr Glu Thr Leu Thr Leu Asp Gln Ile Glu
35 40 45

Ser Asn Ile Cys Arg Cys Pro Asp Pro Glu Tyr Ala Gln Lys Met Ile
50 55 60

Asp Ala Ile Asp Lys Val Arg Val Asn Gly Asn Ser Ile Gly Gly Val
65 70 75 80

Val Thr Cys Ile Ala Arg Asn Val Pro Arg Gly Leu Gly Ser Pro Val
85 90 95

Phe Asp Lys Leu Glu Ala Leu Leu Ala Lys Ala Met Leu Ser Leu Pro

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Thr Gly Ser Glu His Asn Asp Glu Phe Tyr Met Asp Glu Ala Gly Asn		
130	135	140
Val Arg Thr Arg Thr Asn Arg Ser Gly Gly Val Gln Gly Gly Ile Ser		
145	150	155
Asn Gly Glu Thr Ile Tyr Phe Lys Val Ala Phe Lys Pro Thr Ala Thr		
165	170	175
Ile Gly Lys Lys Gln Asn Thr Val Thr Arg Asp His Glu Asp Ile Glu		
180	185	190
Leu Leu Thr Arg Gly Arg His Asp Pro Cys Val Val Pro Arg Ala Val		
195	200	205
Pro Met Val Glu Thr Met Ala Ala Leu Val Leu Met Asp Gln Leu Met		
210	215	220
Ala His Val Ala Gln Cys Glu Met Phe Pro Leu Asn Leu Ala Leu Gln		
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<212> DNA
<213> Zea mays

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aaaaaaa 1626

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<212> PRT
<213> Zea mays

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Ser Ser Leu Arg Phe Ala Val His Arg Cys Arg Thr Ala Arg Leu Glu
35 40 45

Val Lys Ala Ser Gly Asn Thr Phe Gly Asn Tyr Phe Gln Val Ala Thr
50 55 60

Tyr Gly Glu Ser His Gly Gly Val Gly Cys Val Ile Ser Gly Cys
65 70 75 80

Pro Pro Arg Ile Pro Leu Thr Glu Ala Asp Leu Gln Val Glu Leu Asp
85 90 95

Arg Arg Arg Pro Gly Gln Ser Arg Ile Thr Ser Thr Arg Lys Glu Thr
100 105 110

Asp Thr Cys Lys Ile Leu Ser Gly Thr His Glu Gly Val Thr Thr Gly
115 120 125

Thr Pro Ile Leu Val Ile Val Pro Asn Thr Asp Gln Ile Gly Ser Asp
130 135 140

His Arg Glu Ile Ala Asn Val Tyr Arg Pro Ser His Ala Asp Ala Thr
145 150 155 160

Tyr Asp Phe Lys Tyr Gly Val Arg Ala Val Gln Gly Gly Arg Ser
165 170 175

Ser Gly Arg Lys Thr Val Gly Arg Val Ala Ala Gly Ala Leu Pro Lys
180 185 190

Lys Ile Leu Lys Leu Lys Cys Gly Leu Glu Ile Leu Ser Phe Val Ser
195 200 205

Lys Val His Gln Val Val Leu Pro Glu Asp Ala Val Asp Tyr Gly Ser
210 215 220

Val Thr Leu Glu Gln Ile Glu Ser Asn Ile Val Arg Cys Pro Asp Pro
225 230 235 240

Glu Tyr Ala Glu Lys Met Ile Asp Ala Ile Asp Arg Val Arg Val Arg
245 250 255

Gly Asp Ser Val Gly Val Ile Thr Cys Val Ala Arg Asn Val Pro

260

265

270

Arg Gly Leu Gly Ser Pro Val Phe Asp Lys Leu Glu Ser Glu Leu Ala
275 280 285

Lys Ala Met Leu Ser Ile Pro Ala Ser Asn Gly Phe Glu Ile Gly Ser
290 295 300

Gly Phe Ala Gly Thr Asp Leu Thr Gly Ser Glu His Asn Asp Glu Phe
305 310 315 320

Tyr Met Asp Lys Ala Gly Ser Val Arg Thr Arg Thr Asn Arg Ser Gly
325 330 335

Gly Val Gln Gly Gly Ile Ser Asn Val Glu Ile Val His Phe Lys Val
340 345 350

Ala Phe Lys Pro Thr Pro Ser Ile Gly Val Lys Gln Asn Thr Val Ser
355 360 365

Arg Glu Arg Gln Asn Val Glu Leu Leu Ala Arg Gly Arg His Asp Pro
370 375 380

Cys Val Ala Pro Arg Ala Val Pro Val Val Glu Ser Met Ala Ala Leu
385 390 395 400

Val Leu Met Asp Gln Leu Met Ala His Val Ala Gln Cys Glu Met Phe
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<212> DNA

<213> Oryza sativa

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cttgcctcac aagaaccagt tggctctgcc agcagcgtac ctgcatttgc accagatcta 240

aannggnccc ccctcccccc cccccagct gtttatcatc tatcatattt ctgggggttt 300

ctaagggggtt cgcaagtttg ccacaaagcc tggatcctag tttatatctc gagttattgt 360

acccaaggaa tccgttatac agtgagcatg aagatagaaa tgcgttcatg cgtgtttgt 420

gatatggaca atctgtgctt acatcaagt attttgagca ataaaaatcn caatttatg 479

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<212> PRT
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Leu Leu Ala Arg Gly Arg His Asp Pro Cys Val Val Pro Arg Ala Val
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Pro Met Val Glu Ser Met Ala Ala Leu Val Leu Met Asp Gln Leu Met
35 40 45

Ala His Ile Ala Gln Cys Glu Met Phe Pro Leu Asn Leu Ala Leu Gln
50 55 60

Glu Pro Val Gly Ser Ala Ser Ser Val Pro Ala Phe Ala Pro Asp Leu
65 70 75 80

Ser

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<212> DNA
<213> Oryza sativa

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<212> PRT
<213> Oryza sativa

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Leu Arg Phe Ser Val Gly Arg Arg Arg Ala Ala Arg Leu Glu Val Lys
 35 40 45

Ala Ser Ala Asn Val Phe Gly Asn Tyr Phe Gln Val Ala Thr Tyr Gly
 50 55 60

Glu Ser His Gly Gly Val Gly Cys Val Ile Ser Gly Cys Pro Pro
 65 70 75 80

Arg Ile Pro Leu Thr Glu Ala Asp Met Gln Val Glu Leu Asp Arg Arg
 85 90 95

Arg Pro Gly Gln Ser Arg Ile Thr Thr Pro Arg Lys Glu Thr Asp Thr
 100 105 110

Cys Lys Ile Leu Ser Gly Thr His Glu Gly Met Thr Thr Gly Thr Pro
 115 120 125

Ile His Val Phe Val Pro Asn Thr Asp Gln Arg Gly Asp Tyr Ser
 130 135 140

Glu Met Ala Lys Ala Tyr Arg Pro Ser His Ala Asp Ala Thr Tyr Asp
 145 150 155 160

Phe Lys Tyr Gly Val Arg Ala Val Gln Gly Gly Arg Ser Ser Ala
 165 170 175

Arg Glu Thr Ile Gly Arg Val Ala Ala Gly Ala Leu Ala Lys Lys Ile
 180 185 190

Leu Lys Leu Lys Ser Gly Val Glu Ile Leu Ala Phe Val Ser Lys Val
 195 200 205

His Gln Val Val Leu Pro Glu Asp Ala Val Asp Tyr Asp Thr Val Thr
 210 215 220

Met Glu Gln Ile Glu Ser Asn Ile Val Arg Cys Pro Asp Pro Glu Tyr
 225 230 235 240

Ala Gln Lys Met Ile Asp Ala Leu Asp Lys Val Arg Val Arg Gly Asp
 245 250 255

Ser Ile Gly Gly Val Val Thr Cys Ile Ala Arg Asn Val Pro Arg Gly
 260 265 270

Ile Gly Ser Pro Val Phe Asp Lys Leu Glu Ala Glu Leu Ala Lys Ala
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catgtactgt acccanntac tgatcaanga gggcatgact atagcnagat ggnagtacnt 480
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g 541

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<211> 168
<212> PRT
<213> Glycine max

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<222> (139)
<223> Xaa = ANY AMINO ACID

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<222> (164)
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Ala Phe Ala Ser Leu Asn Ser Asp Leu Gly Ser Leu Ser Pro Ala Tyr
20 25 30

Leu Arg Leu Ser Leu Arg Pro Arg Leu Pro Lys Arg Leu His Ile Gln
35 40 45

Ala Ala Gly Ser Thr Tyr Gly Asn His Phe Arg Val Thr Thr Tyr Gly
50 55 60

Glu Ser His Gly Gly Val Gly Cys Val Ile Asp Gly Cys Pro Pro
65 70 75 80

Arg Leu Pro Leu Ser Glu Ala Asp Met Gln Val Asp Leu Asp Arg Arg
85 90 95

Arg Pro Gly Gln Ser Arg Ile Thr Thr Pro Arg Lys Glu Thr Asp Thr
100 105 110

Cys Lys Ile Phe Ser Gly Val Ser Glu Gly Ile Thr Thr Gly Thr Pro
115 120 125

Ile His Val Ser Val Pro Asn Thr Asp Gln Xaa Arg His Asp Tyr Ser
130 135 140

Glu Met Ala Leu Leu Ile Gly Leu His Ala Asn Ala Thr Tyr Asp Met
145 150 155 160

Lys Tyr Gly Xaa Arg Ser Val Lys
165